LUMBERING IN THE BIG TIMBER COUNTRY OF THE WEST

Synopsis of Film

1. A Modern Lumber Camp in Washington.
2. Felling a Giant Douglas Fir.
   This tree was 270 feet high, and 30 feet in circumference.
3. Chief Spar-Rigger climbs Tree and fastens a Block and Tackle about 200 feet from Base.
4. After placing Block and Tackle, he ascends with Axe and chops halfway through the Top of the Tree.
5. Ten Sticks of Dynamite are placed in the Cut and packed in with Mud. The Fuse is lighted; the Chief quickly descends.
6. Cutting the Notch to direct the Fall of the Tree.
7. Cutting the Trunk into 40-foot Lengths.
8. With Steam Engine, Derrick and Steel Cable the Huge Logs are easily moved.
9. Yarding the Logs and loading them onto Cars.
10. Unloading the Logs into the River to be rafted to the Lumber Mill.
11. Hauling the Logs into the Mill.

LUMBERING IN THE BIG TIMBER COUNTRY OF THE WEST

THE exhaustion of the supply of timber in Minnesota, Wisconsin, and Michigan, on account of the increasing demand, has brought the lumber industry in the forests of Washington, Oregon and California into greater prominence.

The timber lands of these states seem almost limitless. A recent United States Forest Survey showed that there were 29,000 square miles of woodland in the state of Oregon alone. Gradually, however, the primeval forests of this section are disappearing. The hundreds of lumber mills in the state of Washington are daily turning out more than 30,000,000 feet of finished product. As yet Oregon has not so many mills, but the annual value of the output of that state for the last few years exceeds $18,000,000.

In these two states, Oregon and Washington, grow the tallest trees in America. The sequoias of California are generally considered the largest trees in the world but they do not reach the height of the loftiest firs. The Oregon pines and Douglas firs of Washington often tower skyward over 250 feet and frequently grow to 14 feet in diameter. A diameter of 10 feet is common, and trees having diameters of less than 4 feet are considered small. Many of these forest giants would weigh 150 tons each.

There is often 100 or 150 feet of "bole," or clear trunk, below the first limb of one of these monarch firs and then 100 feet or more of green branches, which from the ground appear as but a green tuft. No flowers grow at their base. The ground is covered with rank ferns and brakes.

From such lofty, straight-grained trees wonderful ship masts are made and they furnish the finest commercial timber.

It is almost appalling to contemplate that these trees whose growth has required three or four hundred years can be cut down so quickly. As one visitor of this section effectively puts it,—"Trees which it has taken the Almighty centuries to perfect are laid low in an hour."

To those familiar only with the methods of the lumbering industry of Maine, western methods are a revelation. Every step in the industry is conducted on a huge scale to attain speed and greatest production.

The modern lumber camp has the appearance of a town suddenly sprung up. The bunk houses, kitchen and large living room which make up the camp, unlike those of the east, are made of sawed timber, because this is much easier to handle than logs.

After the trees to be cut have been selected by the "timber cruiser," crews, each consisting of three men—two "fallers" and an "undercutter"—begin their work. Spring boards are set in notches in a tree from six to eight feet from the ground so that the men may stand upon these and the more easily work with saw and axe. A deep notch is then cut to direct the fall of the tree.

To prevent these mighty trees from breaking in their fall a wasteful method has been practiced. Several smaller and less valuable trees are cut to form a "bed" for each.

New methods put into use by the most progressive lumber companies to-day overcome this waste somewhat. By a portable power derrick, controlling a block and tackle system with steel ropes a tree is slowly lowered to the ground. In this way the tree itself is uninjured and other trees are not crushed.

Another way of lessening the damage done to other trees is shown in the picture. Here an expert and daring lumberman known as a "spar rigger" climbs the tree and fastens the block and tackle. Ascending a second time by a pulley and cutting a notch just below the branches,

he packs in a heavy charge of dynamite, lights the fuse, and quickly descends. In a moment we see the green branched top blown off. The long, straight, untufted tree is then felled.

Still other methods are used for felling. Some companies install gasoline engines with cutting gear which cuts through the trunk of a tree in one-fifth of the time required with hand-operated saw and axe. Still others use an electrically heated wire which burns through. Much timber, however, is still cut by hand.

Twenty trees of an approximate value of $1,000 can be cut by one "crew" in a day.

After the trees are felled they are cut into logs of various lengths by men with long flexible saws. The lengths of the logs vary according to the purposes for which they are to be used. Some are cut into 140 foot lengths for bridge timbers, but the larger part into 20 or 30 foot lengths.

Steam engines have solved the difficulty involved in the transportation of these great logs to waterways and railroads from which they can be conveyed to saw mills. These powerful squat engines, known as "donkey" engines are set up in the heart of the territory where the trees are to be cut, and to insure their stability are moored to the trees by cables.

Attached to these engines and operated by them are drums or cylinders which hold coils of steel wire, each of which, when let out, will reach about a half mile.

Because of huge stumps and underbrush these immense logs could not be hauled out of the forest by teams. But the lumberman passes the cable around one of them, or around two or three of the smaller ones, and the signal is given. The "donkey" answers the "yank" and the great log, ripping and tearing along, is hauled to the engine by the winding up of the cable.

The engine is generally located near a "tram" road so that the logs can be rolled up an incline and loaded

onto flat cars. A lifting apparatus called a "jib" derrick is required for the loading of the largest logs. This also is operated by steam. The jib is lowered to the log which is grasped by huge iron hooks and then lifted and swung about into place on the car.

The long train of flat cars loaded with logs is hauled by locomotive sometimes a hundred miles, over a single track railroad which winds about through the vast forest over trestles and across streams, before the lumber mill is reached. Here with a roaring splash the logs are dumped into the boom where they soak for several days before they are drawn up the inclined plane into the mill. We realize how powerful an adjunct steam is in the labors of man when we learn how continuously it is employed in the cutting, the loading, and the transportation of this giant timber.

The lumber from these logs is put to various uses. Huge girders for bridge construction, heavy 12 inch beams, railroad supplies, lumber for Government and merchant ships and building materials of many kinds are all furnished from the timber of these Douglas firs and Oregon pines. Steam and sailing vessels at the shipping points where the saw mills are located take much of the lumber to South and Central America and even to Europe.

In view of such limitless forests with the modern appliances for doing things on a big scale, the necessity of conserving the lumber supply does not naturally occur to the lumber owners. The trees are felled ten or twelve feet from the ground and their broad stumps by the hundreds are left to decay. There is often lumber enough wasted in one of these stumps to build a small house. An entire tree of southern pine would not yield so much good wood as one of them.

Some small part of the stump land is reclaimed for farming purposes but it is rather an expensive undertaking. To burn the stumps two holes are bored in each, one for

draft and one for smoke. A wad is then placed inside and lighted. The cost of clearing the land is as much as $300 per acre.

These stumps have been turned to a useful purpose by some companies through portable shingle mills, which convert into shingles the good wood formerly left to decay.

A few figures may give a slight idea of the wealth represented by these forests. Some time ago the Seattle Chamber of Commerce issued the statement that the trees of the state of Washington, if sold standing at the price then prevailing, would bring three hundred million dollars or if cut into timber several billion dollars. At the present day, although some of the timber has been cut, the value of that now standing has vastly increased.

Fires have wrought havoc in these great forests of our country. At times they have gained such progress that they could not be checked and have raged for months causing terrible loss. Within a decade hundreds of square miles of forests have been ruined by fire, with a monetary loss of tens of millions of dollars. The Northern Pacific Railroad runs in one section through 25 miles of burned territory.

The need of protection against fire became very urgent. State Governments and associations of individual forest owners financed and instituted protective measures which made gains along these lines. Private owners paid for men to patrol their property. In 1905 the work of fire prevention and the elimination of damage by fire was put into the hands of the Department of Agriculture and was then systematized and made much more efficient. States are passing laws to help in this preventive work. Oregon has very recently passed a law compelling every lumber owner to provide patrol for his own property.

France, China and other countries have learned that deforestation of great territories sadly affects the industrial and physical conditions of the country and its people. In

this country the entire Appalachian Piedmont region has suffered from wasteful lumbering along the head waters of the streams. To guard against this state of affairs and protect from further exhaustion of its timber supply, the Government has withdrawn from sale and settlement and has reserved land amounting to millions of acres. By the reservation of this forest land the water power of the country, one-third of which is located in this territory, is protected and conserved. That the resources of these national reserves may afford use for the many rather than be monopolized and depleted by the few is the policy of the Government.

WESTERN LUMBERING

Questions on the Film

1. What did you see in the scene of the Western lumber camp?
   Of what were the buildings made? How constructed?
   Did you notice any difference between this camp and the one in the Maine lumbering picture?

2. Describe a Douglas fir tree as to appearance, size of trunk, and location of branches.

3. How is the "spar-rigger" equipped for his climb?

4. How does he go up the second time?
   What does he do at the top? For what purpose?

5. What do you expect to see after the first puff of smoke?
   What causes the first puff?
   What are the advantages in the blowing off of the tops of these trees?

6. Why is a springboard placed several feet from the base of the tree that is to be cut?
What implements do the men use in felling the tree?

7. How many things indicate that this tree is a very large tree?

8. Explain the way in which the logs are hauled out of the forest.
Why do you see no horses in this picture?

9. Why does the man run after fastening the steel hooks to the big log?

10. How are the loads of logs dumped into the water?
Why are they kept in the water several days before they are taken into the saw mill?

11. Describe the way in which the big logs are taken into the mill?

General Questions on Lumbering

1. Name the great timber producing states of the U. S.

2. Name the kinds of trees cut for timber in these states.

3. Note characteristics of each and special uses of timber from each.

4. Where do sequoias grow? Show pictures of these trees.

5. Explain three methods of cutting trees used in the western lumber district.

6. What is meant by making a "bed" for a tree?

7. Compare dimensions of a Douglas fir with some large tree in or near your school yard.

8. Visit some lumber yard, estimate by measuring the number of board feet in one pile and the value of same.

9. Ascertain number of board feet required to build an ordinary house.

10. How are these huge logs taken out of the woods?

11. Why are the logs allowed to remain a short time in the water at the saw mills before cutting? Name several different kinds of lumber into which they are cut. For what is each used?

12 Where is this lumber sent? How transported?

13. State two ways in which western methods of felling a tree are wasteful?

14. Why is so little of this waste stump land reclaimed for farming purposes?

15. When reclaimed how is it cleared of the stumps?

16. For what are some of the lumber companies now using these stumps?

17. What has the Government done to keep these timber lands from being entirely cut off?

18. Why would it be harmful to any section if all of the trees were removed? Do you know of any countries thus injured?

19. Explain the terms "deforestation" and "reforestation."

20. What is the Government doing to protect this section from forest fires?

21. A comparison of methods of Eastern and Western Lumbering would be of interest (i. e. manner of cutting, loading, hauling, and rafting.)

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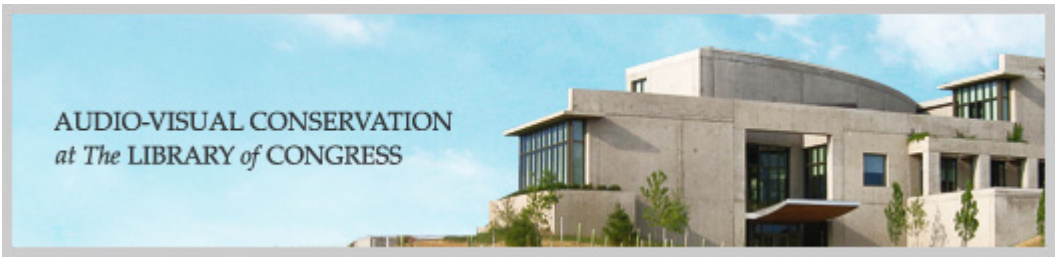

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